

### In the Claims

Please amend the claims as follows:

1. (Currently amended) An isolated and purified nucleic acid molecule encoding a vertebrate DNA repair polypeptide having SEQ ID NO:2, or a biologically active fragment thereof having DNA repair activity, wherein the polypeptide has a molecular weight of about 95000 Da as determined by SDS-PAGE.
2. (Previously amended) The nucleic acid molecule of claim 1 which has SEQ ID NO:1.
4. (Previously amended) An isolated and purified DNA molecule consisting of SEQ ID NO:1, or a DNA molecule <sup>fully</sup>complementary thereto.
- 5-19. (Canceled)
20. (Previously amended) An isolated nucleic acid molecule comprising a promoter operably linked to a nucleic acid segment encoding SEQ ID NO:2.
21. (Previously amended) The nucleic acid molecule of claim 20 wherein the nucleic acid segment has SEQ ID NO:1.
22. (Previously amended) An isolated nucleic acid molecule comprising a promoter operably linked to a nucleic acid segment which encodes a fusion polypeptide comprising at least a portion of a DNA repair polypeptide which binds an antibody specific for SEQ ID NO:2.
23. (Currently amended) An isolated and purified nucleic acid molecule encoding a vertebrate DNA repair polypeptide, or a biologically active fragment thereof having DNA repair activity, wherein the polypeptide has a molecular weight of about 95000 Da as determined by SDS-PAGE, wherein the nucleic acid molecule has SEQ ID NO:1.

24. (Previously added) The nucleic acid molecule of claim 1, 4, 20, 22 or 23 which is labeled.

25. (Previously added) The nucleic acid molecule of claim 22 wherein the portion of the DNA repair polypeptide includes residues 399 to 751 of SEQ ID NO:2.

26. (Previously added) The nucleic acid molecule of claim 22 wherein the fusion polypeptide is a fusion of glutathione S-transferase and at least a portion of the DNA repair polypeptide.

27. (Previously added) The nucleic acid molecule of claim 22 wherein the fusion polypeptide is a fusion of a histidine tag and at least a portion of the DNA repair polypeptide.

28. (Previously added) The nucleic acid molecule of claim 1 wherein the fragment of SEQ ID NO:2 is immunogenic, binds DNA, forms a complex with hMre11/hRad50, or has nuclease activity when associated with hMre11/hRad50.